THE PRIME EXAMINATIONS 2024

P.7 MID TERM II

MATHEMATICS

Time allowed 2 hours 30 minutes

INDEX NO: | | | | | | | | | |

Candidate's Name:.....

Candidate's Signature:.....

School; .....

District ID No.: .....

READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. Do not write your **school** or **district name** anywhere on this paper.
2. This paper has **two** sections: **A** and **B** Section **A** has **20** questions and section **B** has **12** questions. The paper has **9 printed pages**.
3. Answer **all** questions. **All** the working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** working **must** be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than graphs and diagrams will **not** be marked.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and handwriting that cannot easily be read may lead to **loss of marks**.
7. Do **not** fill anything in the table indicated "**For Examiners' use only**", and those boxes inside the question paper.

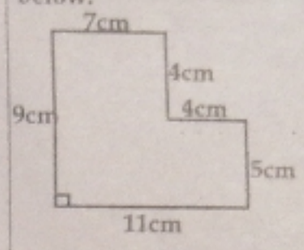
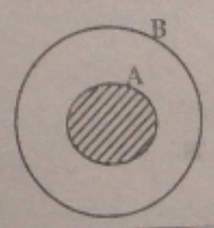
FOR EXAMINERS' USE ONLY		
QUESTION NUMBER	MARKS ATTAINED	INITIALS
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

APPROVED:
Consultant
Mathematics Department (PEC)

WARNING: Not to be reproduced electronically!!

Section A. (40 Marks)

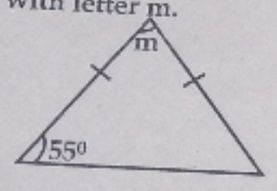
1	Workout: 7294 - 94	2	Write 172063 in words.
3	Given that set K = {4,6,7,5}, find the number of proper subsets that can be got from set K.		
4	Simplify: $^{-}19 - ^{-}12$	5	Find the next number in the sequence below. 125, 64, 27, _____
6	Using a ruler, a pencil and a protractor, draw an angle of 70^0 in the space below.		

7	Work out: $\frac{8}{9} - \frac{1}{9}$	8	Find the perimeter of the figure below. 
9	300gm of salt cost sh 900. Find the cost of 3kg of salt.	10	Express 108km/h in m/s.
11	Solve: 5(x - 2) = 20	12	Add: $403_{five} + 144_{five}$
13	What number has been expressed in standard form to give 9.0126×10^{2}?	14	Describe the unshaded region. 

15 Round off 67042 to the nearest thousands.

16 Find the least number of books that can be shared among 18 or 24 pupils leaving a remainder of 3 books.

17 Find the size of the angle marked with letter m.



18 Decrease 2400kg of sugar by 15%.

19 Convert 91 days to weeks.

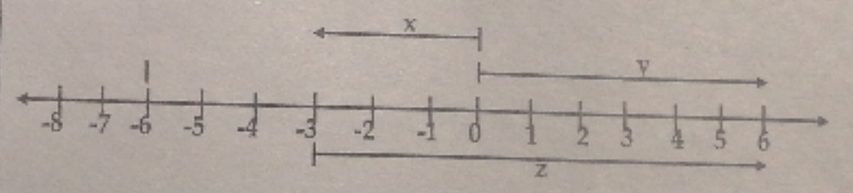
20 Draw a net of a cone in the space below.

(b) Work out the sum of the value of 1 and the value 5. *(03 marks)*

24 (a) Work out: $4 - 8 + 12 - 6$ *(02 marks)*

(b) Simplify: $\frac{36p^5 \times 8p^3}{48p^6}$ *(03 marks)*

25 Study the number line below and answer the questions that follow.



(a) Write the integers represented by the arrows. *(01 mark each)*

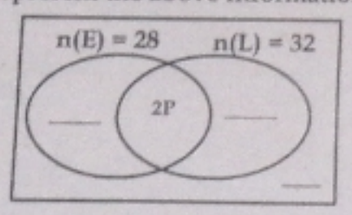
(i) y = _____ (ii) x = _____ (iii) z = _____

(b) Write the mathematical statement shown on the numberline above? *(02marks)*

Section B. (60 Marks)

21 **In a class of 47 pupils, 28 pupils speak English (E) , 32 pupils speak Luganda (L), 2p pupils speak both English and Luganda while 3 pupils speak neither of the two languages.**

(a) Represent the above information on the Venn diagram below. *(03 marks)*



(b) Find the value of p. *(02 marks)*

22 The sum of 3 consecutive even numbers is 156. Find the numbers if the smallest number is **2n - 2.** *(05 marks)*

23 Given the numeral 813542.

(a) Which digit is in the thousands place value? *(01 mark)*

26 In a class, $\frac{7}{15}$ of the pupils are boys and the rest are girls.

(a) Find the fraction of girls in the class. *(02 marks)*

(b) If there are 48 girls in the class, find the total number of pupils in the class. *(03 marks)*

27 Zauja scored the following marks in a series of mathematical tests 50, 30, 70, 50 and 80.

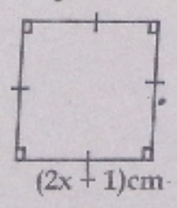
(a) Find the range of her marks. *(02 marks)*

(b) Find Zauja's average score in the tests. *(03 marks)*

28 (a) Using a ruler, a pencil and a pair of compasses, construct a regular hexagon of radius 4.0cm. *(03 marks)*

(b) Find its perimeter. *(02 marks)*

29 **Study the figure below and answer the questions that follow.**



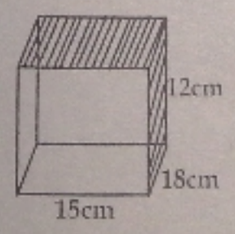
(a) If the perimeter of the figure above is 36cm, find the value of x. *(03 marks)*

(b) Work out the area of the figure. *(03 marks)*

30 **Study the bill table below and complete it correctly.** *(05 marks)*

Item	Quantity	Unit cost	Amount
Sugar	2kg	sh 3000 per kg	sh _____
Rice	_____kg	Sh 4200 per kg	Sh 6300
Milk	$1\frac{3}{4}$ litres	Sh _____ per litre	Sh 3500
Bread	3 loaves	Sh 6000 per loaf	Sh _____
		Total	Sh _____

31 **Below is a cuboid.**



(a) How many faces has the shape? *(01 mark*

(b) How many edges has the shape? *(01 mark)*

(c) Find the total area of the unshaded parts of the above figure. *(02 marks)*

32 **Complete the table below correctly.** *(03 marks)*

Base	No	Remainder
4	___	2
4	17	___
4	4	0
	1	

(b) Find the value of the unknown base. *(03 marks)*

$201_{m} = 163_{tep}$

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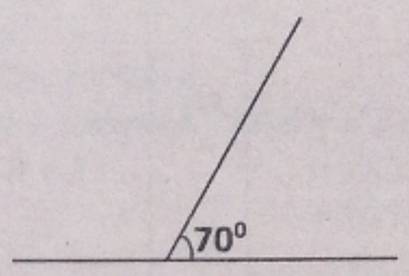
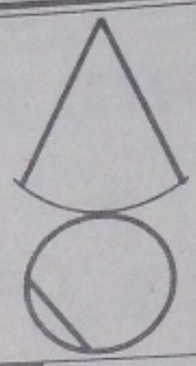
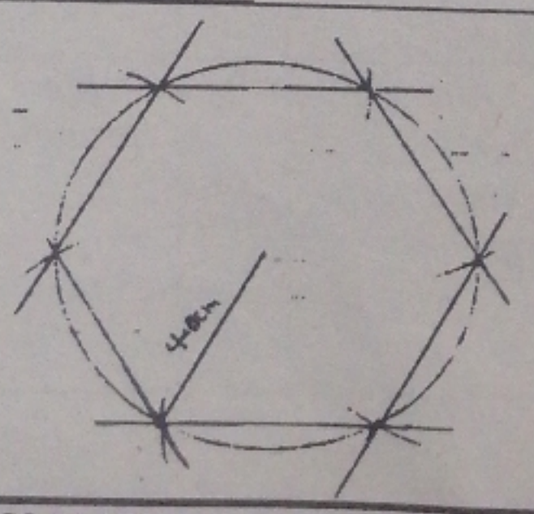
P.7 MATHEMATICS MARKING GUIDE

SECTION A (40 MARKS)

NO	SOLUTION	MARKS	COMMENT	NO	SOLUTION	MARKS	COMMENT
1	7294 - 94 7200	M_1 A_1	Follow through	2	72,063 = Seventy two thousand sixty three.	B_2	Follow through
3	2^n -1 24-1 (2x2x2x2)-1 16-1 15 proper subjects	M_1 A_1	Follow through	4	-19 _ -12 -19 _ (-12) -19 + 12 -7	M_1 A_1	Follow through
5	125, 64, 27, 8 (5x5x5) (4x4x4) (3x3x3) (2x2x2)	B_2	Follow through	6		B_2	Follow through
7	$\frac{8}{9} - \frac{1}{9} = \frac{7}{9}$	M_1 A_1	Follow through	8	P= (11+9+7+4+4+5)cm = 40cm	M_1 A_1	
9	1kg = 1000gm 3kg = 3000gm $\frac{10}{3000} \times$ sh 900 Sh 9000	M_1 A_1	Follow through	10	$\left(\frac{3}{\frac{108 \times 1000}{1 \times 3600}}\right)$ km/hr 3 x 10 km/hr 30km/hr	M_1 A_1	Follow through
11	5(x-2) = 20 5x -10 = 20 5x = 20 +10 $\frac{5}{5}x = \frac{30}{5}$ X = 6		Follow through	12	$\begin{array}{r} {\scriptstyle 1\ 1} \\ 403_{five} \\ +144_{five} \\ \hline 1102_{five} \end{array}$ 4+3 = 7÷5 = 1 rem 2 1+4 = 5÷5 = 1 rem 0 6÷5 = 1 rem 1	M_1 A_1	Follow through
13	9.0126×10^2 $\frac{90126}{10000} \times 10 \times 10$ = 901.26	M_1 A_1	Follow through	14	B-A or A^1	B_2	Follow through
15	T.th Th H T O 6 7 0 4 2 + 0 0 0 0 6 7 0 0 0	B_2	Follow through	16	2 | 18 | 24 2 | 9 | 12 2 | 9 | 6 3 | 9 | 3 3 | 3 | 1 1 | 1 2x2x2x3x3 8x9 72+3 75 books	M_1 A_1	Follow through
17	$55^0 + 55^0 + m = 180^0$ $110^0 + m = 180^0$ $m = 180^0 - 110^0$ $m = 70^0$	M_1 A_1	Follow through	18	100% - 15% $\frac{85}{100} \times$ 2400kg 85 x 24 kg 2040kg	M_1 A_1	Follow through

19	$\left(\frac{91}{7}\right)$ = 13 weeks	A_1	follow through	20		B_2	Follow through

SECTION B (60 marks)

21	N(ℰ) = 47 N(ℰ) = 28 N(L) = 32 28-2p 2p 32-2p 3 (b) 28+32-2p+3 = 47 63-2p = 47 63 – 47 = 2p $\frac{16}{2} = \frac{2p}{2}$ 8 = p p = 8	B_1 B_1 B_1 M_1 M_1 M_1	Follow through	22	1st: 2n-2 | 2nd: 2n-2+2 | 3rd: 2n-2+4 | Sum: 156 2n -2 +2n+2n+2 = 156 2n+ 2n+2n – 2 + 2 = 156 $\frac{6n}{6} = \frac{156}{6}\ 26$ n = 26 1st: 2n-2, (2 x 26) -2, 52 – 2, = 50 | 2nd: 2n, 2x26, = 52 | 3rd: (2 x 26) +2, 52+2, = 54	M_1 A_1 B_1 B_1	Follow through
23	(a) 813542 Thousands The digit is 3. (b) 8 1 3 5 4 2 (5x100) = 500 1x10000 = 10000 Sum = 10000 + 500 = 10500	B_1 B_1 B_1 B_1	Follow through	24	a) 4-8+12-6 (4+12)-8-6 16 = 14 = 2 b) $\frac{36p \times 8p}{48p}$ $\frac{6_1 \not{36} \times \not{p} \times \not{p} \times \not{p} \times \not{p} \times \not{p} \times \not{8} \times \not{p} \times \not{p} \times \not{p}}{\not{48} \times \not{p} \times \not{p} \times \not{p} \times \not{p} \times \not{p} \times \not{p}}$ $= 6P^2$	M_1 A_1 M_1 M_1 A_1	Follow through
25	(a) (i) y = +6 (ii) x = -3, (iii) z = +9 (b) +6- -3 = +9	B_1 B_1 B_1 M_1 A_1	Follow through	26	(a) Boys: $\frac{7}{15}$ | Girls: $\frac{15}{15} - \frac{7}{15} = \frac{8}{15}$ (b) $48 \div \frac{8}{15}$ $\overset{6}{\not{48}} \times \frac{15}{\not{8}_1}$ 6 x 15 = 90 pupils	M^1 A_1	Follow through
27	(a) R= H-L R= 80-30 R= 50 (b) $\frac{50+30+70+50+80}{5}$ $= \frac{280}{5}$ = 56	M_1 A_1 M_1 M_1 M_1	Follow though	28		C_1 R_1 J_1	Follow through

					(b) P= (6x40)cm P= 24cm	M_1 A_1		
29	(a) (2x+1)4 = 36 8x+4 = 36 8x = 36-4 $\frac{8x}{8} = \frac{32}{8_1}$ x = 4	M_1 M_1 A_1	Follow through	30	Sugar Sh 3000x2 Sh 6000 Milk Sh 3500 ÷ $\frac{7}{4}$ Sh 3500 x $\frac{4}{7_1}$ Sh 2000	Bread sh 6000x3 sh 18000 Rice $\frac{3}{sh\ 6300}$ sh 4200 $= \frac{3}{2}$ $= 1\frac{1}{2}kg$	B_1 B_1 B_1 B_1	Follow through
31	(a) 6 faces (b) 12 edges (c) (18cmx15cm)+(18cmx12cm)+ (15cmx12cm)+(15cm x 12cm) 270cm²+216cm²+180cm²+ 180cm² = 846cm²	B_1 B_1 M_1 A_1	Follow through	32	(a) (17 x4) +2 68+2 70	17÷4 = 4 rem 1	B_1 B_1	Follow through
					(b) 201m = 163^{ten} $(2xm^2) + (0xm^1) + (1xm^0) = 163$ $2m^2 + 0 + 1 = 163$ $2m^2 = 163-1$ $\frac{2m^2}{2} = \frac{162}{2}$ $\sqrt{m^2} = \sqrt{81}$ m = 9		M_1 M_1 A_1	